

VIRGINIA DEPARTMENT OF TRANSPORTATION BRIDGE No. 6023
Spanning the Norfolk Southern Corporation railroad
tracks at State Route 646 (Aden Road)
Nokesville Vicinity
Prince William County
Virginia

HAER No. VA-109

HAER
VA
77-NOKY.V
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Northeast Region
U.S. Custom House
200 Chestnut Street
Philadelphia, PA 19106

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1-

HISTORIC AMERICAN ENGINEERING RECORD

VIRGINIA DEPARTMENT OF TRANSPORTATION BRIDGE NO. 6023 HAER NO. VA- 109

Location: State Route 646 (Aden Road) over Norfolk-Southern Corporation railroad tracks, in the vicinity of Nokesville, Prince William County, Virginia

UTM: 18.277015.4287195
Quad: Nokesville, Virginia

Date of Construction: 1882

Engineer: Virginia Midland Railway Engineering Department, Alexandria, Virginia, with Keystone Bridge Company, Pittsburgh, Pennsylvania

Builder: Keystone Bridge Company, Pittsburgh, Pennsylvania

Present Owner: Norfolk-Southern Corporation
9433 Stonewall Road
Manassas, Virginia 22110

Present Use: Vehicular bridge; formerly a single-track railroad bridge

Significance: Virginia Department of Transportation Bridge No. 6051 is a five-panel Pratt through truss bridge 73'-11½" in length. Manufactured by the Keystone Bridge Company of Pittsburgh, Pennsylvania in 1882, the structure is a representative surviving example of a popular truss type built to specifications by railroad companies and bridge companies during the 1875-1925 period in Virginia. Relatively inexpensive and easy to manufacture, ship, and erect on site, Pratt metal truss bridges found widespread application on U.S. railroads and highways throughout the last quarter of the nineteenth century and well into the twentieth century.

Project Information: This documentation was undertaken from December 1993 through June 1994, by P.A.C. Spero & Company for the Virginia Department of Transportation as a mitigation measure prior to potential improvement of State Route 646 affecting the bridge.

P.A.C. Spero and Company
Historic Structures Consultants
Baltimore, Maryland
for the Virginia Department of Transportation (VDOT)

Located in Prince William County, Virginia, southeast of the town of Nokesville, Virginia Department of Transportation Bridge No. 6023 carries State Route 646 (Aden Road) over the railroad tracks of the Norfolk-Southern Corporation. The bridge was constructed in 1882 by the Keystone Bridge Company for the Virginia Midland Railway, a Southern Railway and Norfolk-Southern precursor, to carry a single railroad track at an unknown location. At some time subsequent to 1882, most probably during double-tracking of the Southern Railway between Alexandria and Orange, Virginia, in 1904-1905, the bridge was most likely removed from its original location. Bridge 6023 was dismantled and later reerected as a highway bridge at its present site, carrying Aden Road (State Route 646) across the main Norfolk-Southern line of railroad tracks. Bridge engineers of the Norfolk-Southern Corporation, owner of Bridge No. 6023, classify the bridge as a railroad bridge later re-used as a highway bridge.

Spanning Norfolk-Southern Corporation railroad tracks in Prince William County, Virginia, Virginia Department of Transportation Bridge No. 6023 is a single-span Pratt truss bridge 73'-11½" in length. Spaced 16'-2" on centers, the trusses consist of five panels, measuring 14'-9½" in length and 21'-10" in height, top to bottom chord. The panels are connected by pins with hexagonal nuts, except for the L₁ and L₄ joints, which are riveted. The top chords, inclined endposts, and verticals are built-up members consisting of riveted channels and lacing bars; the hip verticals and diagonals consist of eyebars with die forged ends; and the counters consist of bars of square cross section with die forged ends and turnbuckles. Each portal strut consists of riveted channels with quarter-circular portal bracing consisting of channels; within each portal brace is located a three-quarter circular secondary brace. Lateral rod bracing connects the top chords. Located at the midpoint of each portal strut, bridge plates provide the year 1882 as the date of fabrication and identify the Keystone Bridge Company of Pittsburgh, Pennsylvania as the fabricator.

The floor system consists of four built-up floor beams with 36" webs, seven 14"-deep timber stringers and two 15"-deep metal I-beam stringers (at the next to outside positions) with varied spacing, and a timber deck connected by nailers to the stringers. Lateral bracing below the deck consists of rods with turnbuckles. The timber railings, which are not original to the bridge, consist of posts and two rails. Resting on reinforced concrete and timber-reinforced stone masonry abutments, fixed bearings support the northwest end of the bridge, and expansion bearings support the southeast end. The roadway is 12'-0" wide and carries a single lane of vehicular traffic. Deck to portal clearance is 21'-9".

Historical research indicates that Bridge No. 6023 was originally built in 1882 by the Keystone Bridge Company as a single-track railroad bridge at an unknown location for the Virginia Midland Railway, a precursor of the bridge's current owner the Norfolk-Southern Corporation. A short-span, single-intersection metal Pratt truss span, the bridge reflects standard railroad bridge engineering practice in the United States during the late nineteenth century, when the demand greatly heightened for metal truss bridges with sufficient strength to carry heavy locomotives and rolling stock. During the early twentieth century (most likely

in 1904-1905, when the old Virginia Midland Railway line was double-tracked by the Southern Railway), Bridge 6023 was most likely dismantled and reused as a highway bridge. Bridge 6023 may have been erected at that time at its present site, or the re-erection may have occurred in 1928, when Prince William County citizens expressed concern about the safety of the railroad crossing at the site.

Prince William County, where Bridge 6023 currently carries highway traffic, was established in 1730-1731 from parts of King George and Stafford counties. The county was located in the Tidewater and Piedmont portions of Virginia, with drainage to the Potomac through such streams as the Occoquan and Bull Run. Economically oriented toward marketing their products in such Potomac River ports as Colchester (near Woodbridge), Dumfries, and Alexandria, Prince William county planters and farmers initially grew much tobacco during colonial years. Laid out during the eighteenth century, early roads were frequently "rolling roads", over which casks of tobacco would be laboriously rolled to market. Although tobacco remained a major cash crop of the area on large plantations well into the early nineteenth century, the primary cereal crops wheat and corn were grown on numerous Piedmont farms within the county prior to the Civil War. Small communities that included grist and sawmills, as well as villages or crossroads where stores or churches were located, were often destinations within the developing network of county roads. Early social and commercial life often revolved around plantations; in the rural area surrounding the present site of Bridge No. 6023, such estates founded in the seventeenth and eighteenth centuries included "Effingham", near the village of Aden, and "Pilgrim's Rest", a plantation active beginning in 1687. Much of Prince William County was included in the "Brent's Town" tract granted by James II to the Catholic Brent family; Brentsville, an early post and governmental town, served as county seat until finally superseded by Manassas in 1892.

In a largely agrarian county with scattered mills and villages, the improvement of road and, later, rail transportation offered the promise of new trading and supply outlets. The Carolina Road, an early eighteenth century emigrant route into the Shenandoah Valley and points south, traversed a small part of the county near Haymarket, just south of the Bull Run Mountains. More important for reaching Potomac River ports, however, was the so-called Dumfries, or Quantico Road, which ran in two branches, one running from Dumfries through Haymarket and through Thoroughfare Gap into the Valley, and the other heading more directly southwesterly from Dumfries into Fauquier County. The major part of the Dumfries, or Quantico, Road west of Dumfries follows the approximate route of State Routes 234 and 619; at Independent Hill, State Route 234 is joined by State Route 646 (Aden Road) several miles east of the present site of Bridge No. 6023. Dumfries flourished as a port primarily during the eighteenth and early nineteenth centuries; historical maps indicate that a precursor to State Route 646 was laid out by 1820 between farms in the Nokesville vicinity and the Dumfries-Quantico Road. No evidence has been located to indicate that State Route 646 was ever part of a turnpike, although hard-surfaced pikes, such as the Fauquier and Alexandria Turnpike (later the Warrenton Turnpike; generally following today's U.S. 29

and U.S. 211 past Manassas to Arlington and Alexandria) were within travelling distance of communities and farms along State Route 646.

If Prince William County was not greatly aided by turnpikes during the nineteenth century, the construction and expansion of a railroad network within the county unquestionably assisted the county's development, prompting creation of freight depots and railside communities such as Manassas Station, Bristow Station, and Nokesville. The rail system's origins were antebellum; by October 1851, the Orange and Alexandria (O. & A.) Railroad was constructed from Alexandria to Tudor Hall (Manassas Junction near Manassas), where a spur line (the Manassas Gap Railroad) ran toward the Shenandoah Valley. The Orange and Alexandria, intended to bring the farm commerce of Fauquier and Prince William counties to the port of Alexandria, reached Gordonsville in March 1854 and was the first railroad to run along the route now owned by the Norfolk-Southern Railroad. At Gordonsville, the O. & A. line linked to the Louisa Railroad (later the Virginia Central). By 1860, through acquisition of trackage rights and further construction, the Orange and Alexandria reached Lynchburg.

Heavily used (and damaged) by both Confederate and Union troops during the Civil War, the O. & A. was temporarily taken over by the Commonwealth of Virginia in 1867. Between 1869 and 1872, the line's name was changed to the Orange, Alexandria, and Manassas Gap Railroad. In 1872, the Virginia and North Carolina Railroad Company was organized to consolidate the Orange, Alexandria and Manassas Gap Railroad and the Lynchburg and Danville Railroad then under construction. The B & O then acquired all lines of the Virginia and North Carolina Railroad, changing its designation to the euphonious Washington City, Virginia Midland and Great Southern Railroad. In 1874, the connection to Danville was completed and in 1880 a cutoff from Orange to Charlottesville opened for travel and freight (and earlier cutoff, to Warrenton, had existed before the war). Finally, in 1881, the Washington City, Virginia Midland, and Great Southern Railroad was reorganized as simply the Virginia Midland Railway, under ownership of the Richmond and Danville Railroad. In operation as the Virginia Midland for only eleven years, the line was declared insolvent and entered receivership in 1892, along with all others still controlled by the Richmond and Danville Railroad. Rescue was aided by J.P. Morgan's banking house, and in 1894 the Virginia Midland ended its semi-separate identity and became a key part of the large Southern Railway Company network. The Southern Railway directly owned and operated the line throughout much of the following century; it was merged into the Norfolk-Southern Corporation on June 1, 1982 and has been under Norfolk-Southern authority since that date.

In Prince William County, the reconstruction of the Orange and Alexandria Railroad after the devastation of the Civil War meant renewed growth. Annual reports of the Virginia Midland Railroad indicate that several stations and depots, including one at Nokesville near Aden Road, were operated by the company in the county during the 1880s. The railroad also brought efficient, well-engineered bridges into use as an economical and efficient means of getting goods by rail across streams, creeks and roads. While surviving company

records and Virginia Department of Transportation files do not clearly document the design and construction of Bridge No. 6023 as one such bridge, it is likely that the bridge was fabricated and built as a railroad bridge for use at some point along the Virginia Midland Railway. The prominent date plates of the bridge, mounted on the portal struts, indicate that it was built in 1882 by the Keystone Bridge Company of Pittsburgh, Pennsylvania, a frequent contractor employed by U.S. railroads during the era. The unusually large, 36"-deep floor beams of Bridge No. 6023, a comparatively small metal truss bridge with only five panels, also strongly indicate that the bridge was originally built to carry rail traffic, a far heavier live load in 1882 than the most burdensome wagon traffic. Currently bridge engineers of the Norfolk-Southern Corporation, owner of Bridge No. 6023, classify the bridge as a railroad bridge later re-used as a highway bridge.

The Virginia Midland's annual reports for the early 1880s indicate that the company was greatly concerned about upgrading its bridges and trestles in order to permit greater traffic and the employment of heavier locomotives and rolling stock. The first annual report included a summary of the "physical condition of the road" by General Superintendent Major Peyton Randolph, dated January 21, 1881. Randolph noted generally that "the roadbed is in good condition" and that "the bridges and trestles receive most careful attention and renewals are regularly made to keep them absolutely safe..." In addition to the trestles on the Danville Division and major crossings of the Staunton River and James River Canal, "many of the smaller bridges" were also rebuilt in 1881. Despite these improvements, Randolph's 1881 report indicated that numerous Virginia Midland Railway bridges required reroofing, and thus were timber bridges. Subsequent reports of the railroad's engineer and superintendent reveal that the company mounted an effort to repair or renew such spans, as well as maintain its metal bridges in good shape during the early 1880s.

Between December 31, 1881 and September 30, 1882, the railroad expended the large sum of \$34,556 on repair and renewal of bridges (including \$16,524 on bridges carrying only passenger trains, and \$17,032 on those intended for freight loads). This sum was the largest single figure in the railway company's statement of expenditures for the year ending September 30, 1882. Although much renewal of bridges had taken place, the report of W.M.S. Dunn, Engineer and Superintendent of the line in 1882, referenced only prospective work; this included renewal of thirteen named bridges on the main line, including the Pope's Head No. 4 Bridge, a 72' span and thus a possible precursor to the 73'-11-1/2" long Bridge No. 6023. Dunn noted, however, that "the new bridges we have are strong enough for the 'Consolidation' engines [which could weigh more than 87,000 pounds], and as soon as we can rebuild or strengthen the old bridges, we should, I think, adopt that class of engines for freight service." Dunn's 1883 annual report revealed that the 72' Pope's Head No. 4 Bridge, located on the main line in southern Prince William County, had been rebuilt or replaced since his last statement, a strong suggestion that the similarly sized Bridge No. 6023 was built to replace it. In 1882, the Pope's Head No. 4 bridge was the only bridge of that length replaced or renewed. Unfortunately, the annual report did not provide unqualified evidence that Bridge No. 6023 was Virginia Midland's successor to the Pope's Head span.

However taken, the railroad's decision to make Bridge No. 6023 a Pratt through truss bridge was an action characteristic of railroad bridge engineering practice during the late nineteenth century. Hundreds of metal truss bridges had been erected in the nation by the 1880s, and many more hundreds would be built in subsequent decades. In his 1908 handbook, The Design of Highway Bridges and the Calculation of Stresses in Bridge Trusses, the well-known consulting engineer and civil engineering professor Milo S. Ketchum offered a succinct definition of the truss:

A truss is a framework composed of individual members so fastened together that loads applied at the joints produce only direct tension or compression. The triangle is the only geometric figure in which the form is changed only by changing the lengths of the sides. In its simplest form every truss is a triangle or combination of triangles.

The basic components of a simple metal truss include top and bottom chords, web members characterized as verticals or diagonals and connected to the chords at joints, the portals, stringers, floor beams and deck. The top and bottom chords, the verticals, and the diagonals are the structural members that carry the loads exerted on the superstructure and transmit them to the substructure. The particular arrangement of the chords and the web members determines the specific truss type. The portal is the space of a truss which forms the entrance to the bridge, while the stringers consist of the longitudinal members, placed parallel to the direction of traffic, which transmit the deck loads to the floorbeams. These are placed transverse to the direction of traffic in order to convey the deck loads to the bridge trusses. The floor system provides direct structural support for the loads caused by vehicular traffic. The truss generally rests on piers or abutments at points designated as bearing seats.

Truss bridge design was greatly advanced by the sixteenth century Italian architect, Andrea Palladio. Although Palladio built a number of bridges using the truss, and included his designs in his architectural treatise, his discovery received little attention until American engineers began to use the form in the first half of the nineteenth century. Truss bridges were initially constructed of wood; cast iron truss bridges were first erected during the 1840s along the route of the Erie Canal. Although timber was generally in plentiful supply, the limited longevity of untreated wood necessitated frequent replacement. At first deterred by the higher cost of iron, early bridge builders gradually made the shift from wood to iron, with many transitional structures featuring iron rods solely for tension members and wood for the remainder of the truss.

In 1847, the renowned bridge builder, Squire Whipple, noted that cast iron, which fractures on impact and is less than ideal for carrying tensile loads, was desirable for use in compression members, while wrought iron, being ductile and not brittle, was better suited for tensile members. By 1850, rolled wrought iron shapes were becoming more widely available, and increasing numbers of bridges were being built of iron. After the Civil War,

larger bridge companies proliferated, and between 1890 and 1910, the greater tensile strength of structural steel led to its ascendancy over wrought iron, despite the latter's superior resistance to corrosion.

A wide variety of truss types was eventually developed by the early twentieth century. One of the most important and popular was the Pratt truss, patented by Thomas and Caleb Pratt in 1844, and built from the middle of the nineteenth century and well into the twentieth century. The Pratt truss has its vertical members in compression while its diagonal members resist the tensile force. By 1910, Pratt through trusses (where the top chords are connected with lateral bracing and the deck is located slightly above the bottom chord) were available in a number of variants, including the Parker truss (having a polygonal top chord), the Camelback truss (a Parker truss with a polygonal top chord of exactly five slopes), and the Pennsylvania (or Petit) truss, a Pratt or Parker truss with subdivision of the panels by an auxiliary framework of sub-struts. Bridge engineer and historian J.A.L. Waddell observed in 1916 that the Pratt truss was the most commonly used truss type for spans under 250' in length, noting that "nearly all trusses of ordinary span lengths are being designed of the Pratt or Petit type."

Like other metal truss bridge types, the Pratt truss could be fabricated at a shop to specifications provided by a customer, then shipped to the site and erected on abutments with the aid of markings on the members. During the late nineteenth and early twentieth centuries, numerous bridge companies published catalogs of their structures, along with order forms and detailed instructions on how to determine which bridge type was suitable for a given site. Although built-up members fabricated at the shop were riveted, the initial difficulty of riveting in the field led to the widespread use of pin connections assembled at the site. Resembling large metal bolts with threads on both ends, pins were inserted through holes drilled through, or welded to, the members and capped on both ends with hand-tightened nuts. Although pins allowed for speedy erection and easier analysis of stresses in a truss, they were also susceptible to loosening, especially when the vehicular traffic was heavy and fast-moving. The development of portable pneumatic riveting systems in the last decade of the nineteenth century led to the gradual abandonment of pin connections, especially on larger bridges.

During the last several decades of the nineteenth century, the railroads pioneered the use of metal truss bridges built to withstand remarkable, unprecedented loads. Much professional attention was devoted to the proper design and construction of ordinary railroad bridges with specially engineered, strong components in a simple configuration. In 1889, prominent bridge engineer Theodore Cooper, whose 1874 Erie Railroad specifications and 1885 General Specifications for Iron Railroad Bridges and Viaducts pioneered the field, noted that older, more complicated truss forms "like the Bollman, Fink, Lowthorp, and Post trusses" had disappeared from American practice; the double-intersection Whipple or Linville truss was rapidly following them, as railroad bridges were generally "made with parallel chords and equal panels; this gives the minimum number of different lengths of parts, which leads

to greater economy and accuracy of manufacturing." Cooper in his specifications and writings urged that railroads build all regular spans with floorbeams, stringers, and bracing strong enough to take all anticipated locomotive loads; through trusses should have overhead portal bracing but be high enough to accommodate particularly tall engines and cars.

No records have survived concerning the contracting process which resulted in the Virginia Midland Railway's decision to employ the Keystone Bridge Company as the fabricator and builder of Bridge No. 6023. Organized in April 1865 by young Pittsburgh financier Andrew Carnegie and his equally young bridge engineering associates, Jacob Hays Linville and John Piper, the Keystone firm by 1882 was one of the largest and most competently staffed bridge fabricators in the United States if not the world. Carnegie, who later made his fortune in steel production, regarded the Keystone Bridge Company as his "pet" and "the parent of all [my] other works." From its inception, the bridge building firm benefited from close proximity to (and actual business partnership with) Carnegie's iron and steel mills in the Pittsburgh area; the main plant of the bridge works was located immediately adjacent to the Lucy Furnace of Carnegie, Kloran and Company, erected on the north side of the city in 1870 and named for Carnegie's sister-in-law. Andrew Kloran, at times Carnegie's rival and at times his ally, but always an industry innovator, invented a metal saw, an unsetting machine, and machine tools that permitted high-speed fabrication of iron and steel beams and plates for the bridges made and marketed by Keystone.

Distinctive accomplishments of the Keystone Bridge Company included the 1874 fabrication of the great Eads Arch at St. Louis, with the first all-steel superstructure in the United States as well as production of steel beams and plates for the 1883 Brooklyn Bridge. The firm ultimately produced the iron and steel components for ten bridges across the Allegheny and Monongahela rivers, twenty-three over the Ohio, and thirteen crossing the Mississippi River. Linville served as the company's first chief engineer during the late 1860s; in 1878, Abraham Gottlieb (1837-1894), formerly an officer of the Boomer Bridge Company and the first (1870) American Bridge Company, became President of the Keystone Bridge Company, resigning in 1884. Under Gottlieb's tenure, Keystone in 1879 hired Edwin Thacher (1839-1920), later to be prominent in American concrete bridge design but then already a veteran railway and metal truss bridge engineer, as chief computing engineer. Thacher became chief engineer of the company in 1883, designed and patented his own truss design in 1884, and served with the Keystone company until 1887, two years prior to the founding of his own firm.

Between 1891 and 1894, the firm officially became the Keystone Bridge Works of the Carnegie Steel Company. In 1900, Keystone Bridge Company was one of twenty-four companies acquired by the American Bridge Company, organized by J.P. Morgan with Carnegie's participation (in 1901, American Bridge formally was declared a subsidiary of Morgan's great United States Steel Corporation). The Keystone company was thus one of very few bridge companies to be in business throughout the entire, formative period of

American metal railroad truss design, from the end of the Civil War until the beginning of the twentieth century.

No records have been located regarding Virginia Midland's and Keystone's design and construction of Bridge No. 6023 in 1882, and no plans or original construction drawings have been found. Although the lack of definite records makes uncertain the dating of the bridge's removal to its present site carrying State Route 646 (Aden Road) over the Norfolk-Southern main line tracks, there is some evidence to suggest that the dismantling of the bridge at its original site, and possibly its re-erection on State Route 646, occurred in 1904. In that year, the Southern Railway, which had acquired the Virginia Midland Railway in 1894, completed double-track construction on the 78-mile section between Alexandria and Orange, Virginia, a section that included the entire trackage of the line within Prince William County. The double-tracking of the line necessitated a major bridge construction program, as described in the March 2, 1905, issue of Engineering News by John W. Ash, the Southern Railway's Inspector of Masonry and Assistant Engineer on the job:

"All old bridges were taken out and replaced with new and heavier structures, excepting three or four that had been erected during the past few years. The total number of new bridges is as follows: 42 spans of deck plate girders from 30 to 90 ft. span; two spans of through plate-girders; one four-span single track through truss; one single span double track through truss; one single span double track deck truss, with 90-ft. girder approaches at each end, and one viaduct 470 ft. long. In addition to the above, four old single-span, single-track through trusses were erected for highway crossings, and one single track one span through truss was taken out at mile post 74 and reerected at mile post 10 (emphasis added)."

Ash did not specify whether the present Bridge No. 6023 in 1904 was one of the four old single-span, single-track through trusses rebuilt to carry roads, but this may have possibly been the case, for Bridge 6023 clearly was intended for railroad use as a single-track structure. Ash also reported that the Phoenix Bridge Company furnished and erected the new bridges along the line, also taking out the old structures. The Southern Railway's own "forces", however, reerected the four old bridges as highway crossings.

Additional twentieth century records concerning Bridge 6023 are scanty and do not clearly indicate the date at which the bridge was placed in its present location. With the coming of the automobile and Federal government installations to Prince William County, State Route 646, or Aden Road, gained additional importance as a link between Route 28 and State Route 234 leading to the Quantico and lower Potomac areas. In 1916-1917, the first facilities at Quantico Marine Base opened for service during World War I; in 1934, the New Deal's Resettlement Administration founded the Chopawamsic Refuge, later expanded and renamed Prince William National Forest. During World War II, both the marine base and the forest were heavily utilized for training of military personnel and (in the forest's case) civilians learning espionage skills as members of the Office of Strategic Services (O.S.S.).

A search of Prince William County records, however, located two 1928 references that may indicate that Bridge 6023 was not reerected at its present site until that date. On February 28, 1928, the Prince William County Board of Supervisors resolved to endorse a petition that the Southern Railway be requested "to erect signal lights, or other safety devices, at railroad crossings" at Nokesville and Bristow Station "for protection of life and property." On the same date, the board ordered that D.E. Earhart and H.L. Tubbs ask the Southern Railway officials to improve Aden Road at the Southern's tracks "as a proper highway." The latter action of the board was recorded under the heading "In Re: Bridge Over Railway at Nokesville." Taken together, the two resolutions of February 28, 1928, suggest that citizens were seeking a grade crossing elimination structure on Aden Road at the tracks or, failing that, a commitment from the railroad to install proper warning signals at an at-grade crossing. Nevertheless, these records do not rule out the strong possibility that the bridge was one of those removed and saved by the railroad during the 1904 double-tracking of the line. Bridge 6023 may well have been entirely dismantled and stored for reuse until the 1928 Prince William County Board of Supervisors resolutions prompted the Southern Railway to find a suitable bridge (inexpensive because it already existed in storage) for the site.

No further records have been found concerning the construction, re-erection, and maintenance of Bridge 6023, which continues to carry automotive and truck traffic at its current location. The bridge was listed on the National Register of Historic Places on November 15, 1977.

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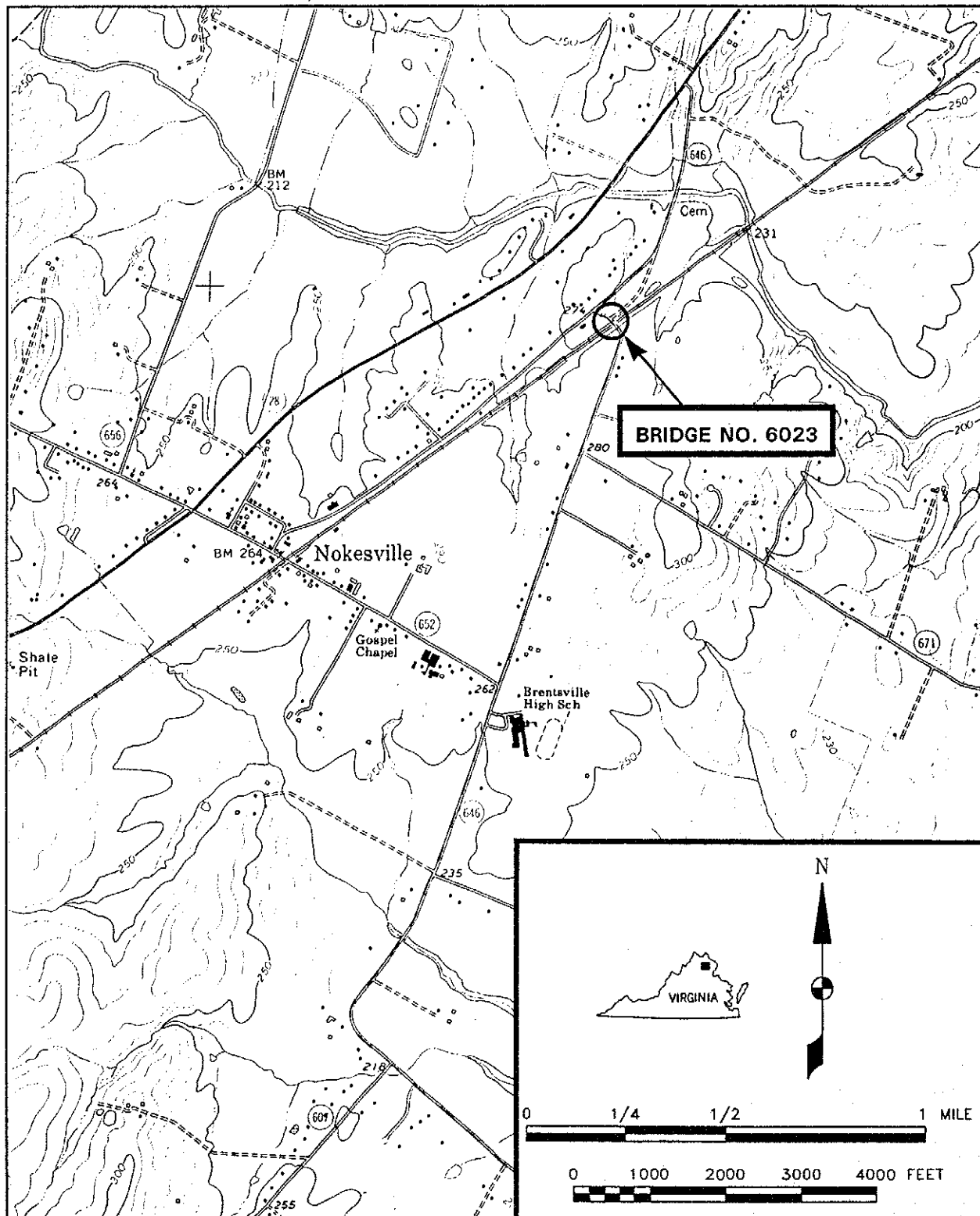


FIGURE 1: Location Map

SOURCE: USGS 7.5 Minute Quadrangle, Nokesville, VA, 1966
(Photorevised 1983)

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SOURCE: Virginia Department of Transportation 1973

FIGURE 2: Bridge Inspection Files, Bridge No. 6023, May 1, 1973

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Items protected by current copyright law may include--but are not limited to--photographs, prints, drawings, letters, maps, unpublished manuscripts, photo albums, theses, dissertations, books, and periodicals.

6" Railings

SOURCE: Virginia Department of Transportation 1973

FIGURE 4: Bridge Inspection Files, Bridge No. 6023, May 1, 1973

ITEM NOT AVAILABLE

This item has been removed from the formal documentation for this structure because:

- the item is registered or otherwise protected under the 1976 Copyright Act as amended and thereby ineligible to enter the public domain as formal HABS/HAER documentation
- the copyright status of the item is not possible to establish due to a lack of sufficient bibliographical information in the formal documentation

Items protected by current copyright law may include--but are not limited to--photographs, prints, drawings, letters, maps, unpublished manuscripts, photo albums, theses, dissertations, books, and periodicals.

SOURCE: Virginia Department of Transportation 1973

FIGURE 5: Bridge Inspection Files, Bridge No. 6023, May 1, 1973

ITEM NOT AVAILABLE

This item has been removed from the formal documentation for this structure because:

• the item is registered or otherwise protected under the 1976 Copyright Act as amended and thereby ineligible to enter the public domain as formal HABS/HAER documentation

• the copyright status of the item is not possible to establish due to a lack of sufficient bibliographical information in the formal documentation

Items protected by current copyright law may include--but are not limited to--photographs, prints, drawings, letters, maps, unpublished manuscripts, photo albums, theses, dissertations, books, and periodicals.

ITEM NOT AVAILABLE

This item has been removed from the formal documentation for this structure because:

- the item is registered or otherwise protected under the 1976 Copyright Act as amended and thereby ineligible to enter the public domain as formal HABS/HAER documentation
- the copyright status of the item is not possible to establish due to a lack of sufficient bibliographical information in the formal documentation

Items protected by current copyright law may include--but are not limited to--photographs, prints, drawings, letters, maps, unpublished manuscripts, photo albums, theses, dissertations, books, and periodicals.

SOURCE: Virginia Department of Transportation 1973

FIGURE 7: Bridge Inspection Files, Bridge No. 6023, May 1, 1973